

ABSTRACT OF THE DISCLOSURE

A die through hole has an inside surface including a bell portion, an approach portion, and a bearing portion from the entrance side. The diameter of the approach portion is $D1$ on its entrance side and $D2$ on its exit side and gradually decreases from the entrance side to the exit side. The diameter satisfies Equation (1): $0.7 \leq D2/D1 < 0.97$. The die half angle of an inside surface where the diameter $D3$ is $D2/0.97$ is not less than the die half angle $R2$ of an inside surface nearer to the approach portion exit side than the inside surface where the diameter is $D3$. The axial distance LR from the inside surface where the diameter is $D3$ to the inside surface where the diameter is $D2$ satisfies Equation (2): $20 \leq LR/((D3-D2)/2) \leq 115$. The through hole diameter at the bearing portion is fixed at $D2$, and the length is LB and satisfies Equation (3): $0.3 \leq LB/D2 \leq 10$.